

*This presentation is for illustrative and **general** educational purposes only and is not intended to substitute for the official MSHA Investigation Report analysis nor is it intended to provide the sole foundation, if any, for any related enforcement actions.*

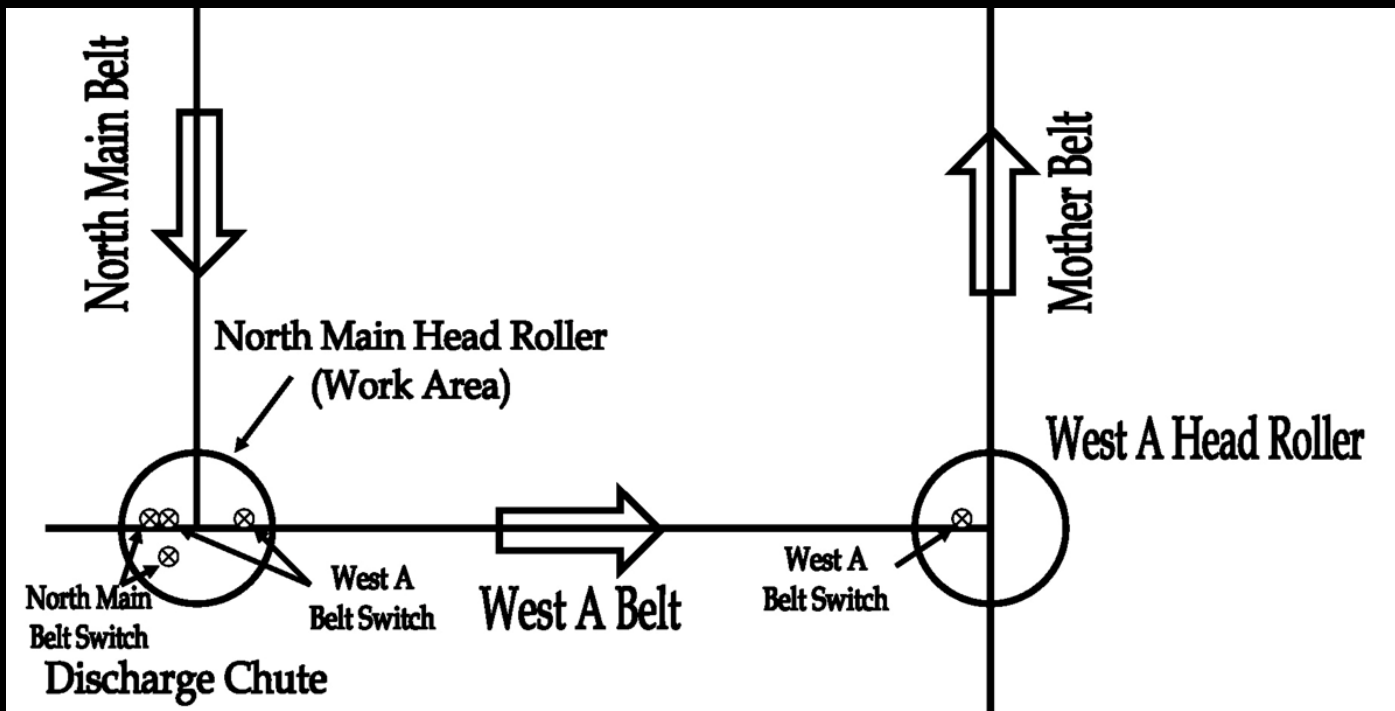
GENERAL INFORMATION



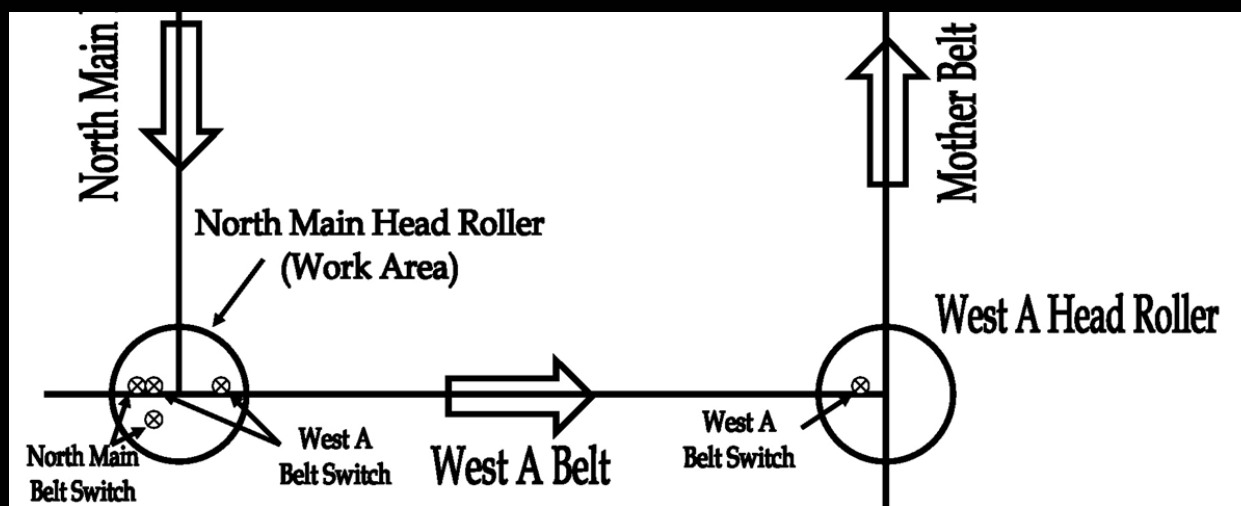
OVERVIEW



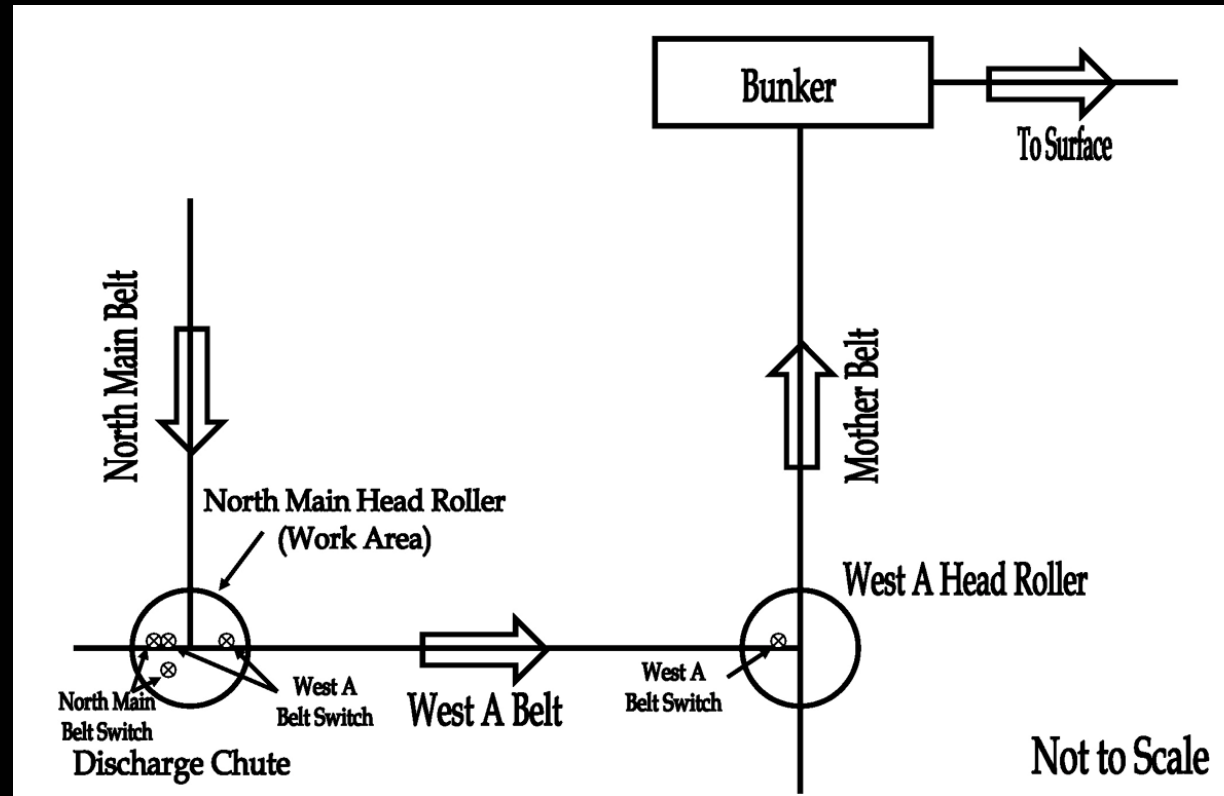
ACCIDENT DESCRIPTION



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CONVEYOR SYSTEM

- The accident likely occurred at the North Main belt discharge to the West "A" belt. The victim's duties were to clean the belts and keep the head roller discharge chutes free of obstructions.
- The daily pre-shift examination record showed no hazardous conditions recorded for the North Main belt and West "A" belt areas.
- The 60" North Main and West "A" belts were controlled by a solid state, Benshaw starters.
- The North Main belt head roller had an elevated catwalk located on both sides of the head roller support structure. The elevated catwalk did not provide access into the discharge chute.
- The discharge chute had a replaced interior liner with seams protruding approximately ¼-inch into the chute. Rocks can hang up against these protrusions, blocking the chute.
- North Main Belt head roller discharge chute blockages occurred on a relatively frequent basis.
- Evaluation of data from underground functional tests, in combination with the electronic belt conveyor computer time log, indicates that the West "A" belt conveyor was stopped for approximately 22 seconds.

HUMAN FACTORS



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- Miners would sometimes jog the West “A” belt off and on, which would occasionally clear the chute obstruction.
- Miners had helped the victim clear rock from the North Main discharge chute by climbing over the head roller and positioning themselves at the top of the chute. Due to the victim’s stature, he normally would not climb above a chute obstruction, directly below the top of the head roller.
- Miners stated they felt pressured to limit conveyor belt downtime when clearing chute obstructions.
- Difficulty in restarting the longwall face conveyor and the 9,000’ long North Main conveyor, when loaded with coal, may have influenced work practices.
- Miners stated that there have been large spills at the North Main head roller area created by following the instructions from the CO Room operator.

LIKELY ACCIDENT SCENARIOS

1. The victim may have activated the North Main belt remote switch located on the northwest side of the North Main head roller, walked under the North Main belt to the northeast side, and improperly activated the West “A” conveyor belt switch (without “latching” the switch). The victim may have then attempted to:
 - a) Climb the east catwalk as the West “A” belt conveyor coasted to a stop, position himself over the edge of the stopped West “A” belt conveyor, and use a 7-foot drill steel to reach up the chute to dislodge jammed rock.
 - b) Climb the east catwalk while the West “A” belt conveyor coasted to a stop, step onto and straddle the stopped West “A” belt, and position himself to thrust a 7-foot drill steel up the discharge chute to clear an obstruction.
- ❖ Either action could have resulted in the victim contacting the West “A” belt conveyor when it independently restarted.

LIKELY ACCIDENT SCENARIOS

2. The victim may have walked to the end of the catwalk and attempted to lean over the operating belt to thrust a 7-foot drill steel up the chute discharge. He may have then fallen onto the moving West “A” belt.
 3. The victim may have stopped the belts and immediately restarted the West “A” belt to “jog” the jammed rock and coal out of the chute. When this action failed, the victim may have crossed under the North Main belt, walked to the end of the east catwalk and positioned himself over the edge of the moving West “A” belt to clear the obstruction with a 7-foot drill steel. This action could have easily resulted in the victim contacting the moving West “A” belt.
- ❖ Any one of these three scenarios could have occurred.

ROOT CAUSE ANALYSIS

Causal Factor: The West "A" conveyor belt was not de-energized while maintenance activities were being conducted on the belt.

Corrective Actions: The mine operator developed and implemented a belt conveyor safety policy to prevent contact between miners and moving belt conveyors.

Causal Factor: The method used to unblock obstructions in the North Main belt head roller discharge chute was not adequate to prevent miners from contacting the West "A" belt conveyor.

Corrective Actions: Safe access into the North Main Belt Head roller discharge chute has been provided above the West "A" Belt.

Causal Factor: The North Main belt conveyor discharge chute liner, with a replaced internal steel section with protruding seams, catches and holds rock obstructions which must be broken loose by miners.

Corrective Actions: This chute has been completely redesigned and replaced to prevent blockages.

CONCLUSION

The victim sustained fatal injuries when he contacted the moving West "A" belt conveyor. The lack of established safe work practices and procedures, in combination with an absence of physical environmental safeguards and lack of safe access for physical chute maintenance were determined to be the contributing causes of the accident.

ENFORCEMENT ACTIONS

104(a) Citation issued for a violation of 30 CFR 75.1725(c)

Based on information revealed during an accident investigation, maintenance was being conducted on April 22, 2004 between 10:57 pm and 11:15 pm at the North Main Belt Header and West "A" belt conveyor without removing power and blocking the West "A" belt from motion. As a result, a miner contacted the moving belt conveyor while attempting to perform assigned belt maintenance, that included removing blockages, and was fatally injured as he contacted the moving belt or as he was subsequently transported on the belt 9000 feet through belt transfers and a rock breaker to the surface mine refuse pile.

BEST PRACTICES

- Never remove coal spilled beneath unguarded conveyor belt drives and tailpieces while the conveyor is in motion.
- Stay out of areas along a moving conveyor belt where clearance is restricted.
- Cross moving conveyor belts only where suitable crossing facilities are provided.
- Ensure all guards are adequate and securely in place.
- Ensure that power is off and cannot be accidentally restored to machinery before any work is performed on such equipment.
- Ensure that machinery is blocked against motion before performing maintenance or repairs.
- Consider providing a visible or audible system to warn persons that the conveyor will be started.